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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,912

04/19/2007

William Ogilvie

GJE-004

3594

21884 7590 06/02/2010

WELSH & FLAXMAN LLC  
2000 DUKE STREET, SUITE 100  
ALEXANDRIA, VA 22314

EXAMINER

TALBOT, BRIAN K

ART UNIT

PAPER NUMBER

1715

MAIL DATE

DELIVERY MODE

06/02/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/587,912	<b>Applicant(s)</b> OGILVIE, WILLIAM	
	<b>Examiner</b> Brian K. Talbot	<b>Art Unit</b> 1715	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/31/06</u> . | 6) <input type="checkbox"/> Other: _____  |

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1. Applicant's election without traverse of Group I, claims 1-7, in the reply filed on 5/27/10 is acknowledged. Claim 9 has been withdrawn from consideration as being directed toward a non-elected invention. Claim 8 has been canceled.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-3,6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elmoursi et al. (7,476,422) in combination with Alkhimov et al. (5,302,414).

Elmoursi et al. (7,476,422) teaches a copper circuit formed by kinetic spray having an electrically insulative substrate and a bond layer applied in the desired shape of the circuit to be formed. The circuit is formed by kinetic spraying copper particles on the bond layer (abstract). The bond layer is silver or an alloy thereof but can also be zinc or tin and alloys thereof (pg. 5, lines 45-52). The bond layer is formed by screen printing.

Elmoursi et al. (7,476,422) fails to teach the bond layer being also applied by CGDS or kinetic spraying.

Alkhimov et al. (5,302,414) teaches Gas dynamic spraying for applying a coating whereby the coating material can include powders of metal, alloys, polymers and mixtures thereof (abstract). The metals include zinc, tin and there alloys (Example 7).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Elmoursi et al. (7,476,422) process to include coating the bond layer also by Gas Dynamic Spraying as evidenced by Alkhimov et al. (5,302,414) with the expectation of achieving similar success.

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6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elmoursi et al. (7,476,422) in combination with Alkhimov et al. (5,302,414) further in combination with JP 01-089528.

Features detailed above concerning the teachings of Elmoursi et al. (7,476,422) in combination with Alkhimov et al. (5,302,414) are incorporated here.

Elmoursi et al. (7,476,422) in combination with Alkhimov et al. (5,302,414) fail to teach attaching a component on the substrate and depositing a layer by CGDS.

JP 01-089528 teaches a superconductive pin grid array whereby connection pins are placed in a wiring surface of an IC chip on a substrate and deposition is applied by plasma spraying (abstract).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Elmoursi et al. (7,476,422) in combination with Alkhimov et al. (5,302,414) process to include a chip component thereon and using plasma spraying to applying coatings thereon as evidenced by JP 01-089528.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brian K Talbot/  
Primary Examiner, Art Unit 1715

BKT